Environment and Natural Resources Trust Fund

2023 Request for Proposal

General Information

Proposal ID: 2023-025

Proposal Title: Root River Habitat Restoration

Project Manager Information

Name: Colleen Foehrenbacher

Organization: Eagle Bluff Environmental Learning Center

Office Telephone: (507) 467-2714

Email: colleenf@eaglebluffmn.org

Project Basic Information

Project Summary: The Root River Restoration project is 3,300 linear feet of stream bank and instream habitat restoration located within Eagle Bluff and state owned land north of Lanesboro, Minnesota.

Funds Requested: $866,000

Proposed Project Completion: June 30, 2028

LCCMR Funding Category: Methods to Protect, Restore, and Enhance Land, Water, and Habitat (F)

Project Location

What is the best scale for describing where your work will take place?

Region(s): SE

What is the best scale to describe the area impacted by your work?

Region(s): SE

When will the work impact occur?

During the Project and In the Future

Narrative

Describe the opportunity or problem your proposal seeks to address. Include any relevant background information.

Flood events since 2011 have drastically changed the Root River within the project area. Flood damage and sediment accumulation has disconnected the river channel and floodplains, directing flows against the riverbanks creating erosive conditions and loss of riparian habitat and fish habitat. Eagle Bluff has established this project as one of high need to address the loss of stream banks and aquatic habitat, and unsafe sloughing slopes. As a result of aggradation due to current riverbank erosion and unstable channel dimensions, instream fish habitat has drastically declined. Prior to flood events this area was populated with Brown Trout, Channel and Flathead Catfish, Walleye, Sauger, Rock Bass, Shovelnose Sturgeon, Longnose Gar, and white and smallmouth bass. One notable species historically present that occurs infrequently in the Root River is the Lake Sturgeon. The river has macroinvertebrate and total suspended solids impairments as well. This project would address both the sediment load entering the river, a priority of the Root River One Watershed One Plan, and macroinvertebrate and fish.

What is your proposed solution to the problem or opportunity discussed above? Introduce us to the work you are seeking funding to do. You will be asked to expand on this proposed solution in Activities & Milestones.

The proposed project exhibits steep slopes with highly erodible soils, sloughing soils, and uprooted and fallen trees. The riverine habitat within this area is degraded but includes geomorphic features such as riffles, runs, and pool habitat that will support diverse aquatic species if restored. Preliminary conceptual plans have been completed to address current conditions of the project in cooperation with the MNDNR area fisheries office which include installation of rock boulder toe, toe-wood, rootwads, boulder clusters, riffles and floodplain restoration to enhance aquatic species habitat including brown trout, smallmouth bass, northern pike and sensitive species. The riparian areas of the river will be restored with native riparian and upland buffers using both live plantings and native seeding that will filter sediments and nutrients from surface water runoff. This area has also been called, “the most diverse, remote, and fascinating piece of property left in the Root River Watershed'' by former regional DNR fisheries manager, Steve Klotz. Biological monitoring will be conducted as part of the Eagle Bluff educational curriculum in cooperation with the local MNDNR staff from the Lanesboro Fisheries office to determine how the habitat improvements affect changes in fish and aquatic species populations, and water quality.

What are the specific project outcomes as they relate to the public purpose of protection, conservation, preservation, and enhancement of the state’s natural resources?

Restoration of this section of the Root River will provide the following long term benefits: increased fish populations resulting from instream fish habitat structures such as root wads, boulder toe, and toe-wood benches; improved water quality by reducing soil erosion and sediment pollution; enhanced vegetated riparian buffer to filter sediment, nutrients, and debris from runoff; and habitat for wildlife species. The proposed project will provide restored habitat open to the public for recreation and fishing. Our project will also create opportunities to develop lesson plans about ecological restoration and environmental careers, and water quality, habitat, and aquatic species monitoring data.

Activities and Milestones

Activity 1: Final Design, Engineering, Permitting and Construction Oversight

Activity Budget: $140,000

Activity Description:
This activity includes engineering, design, permitting, supervision of construction, permit compliance inspection, pre-construction, and post construction survey.

Activity Milestones:

Description	Completion Date
Pre-construction Stream Survey	July 31, 2023
Engineering/Construction Plans and Bid Specifications	March 31, 2024
Permit Requirements: MPCA, MNDNR, USACE, Local LGU	July 31, 2024
Construction Oversight: Supervision, Permit Compliance	May 31, 2025
Post Construction Stream Survey and Summary	July 31, 2025

Activity 2: Project Construction, Monitoring, and Maintenance

Activity Budget: $651,000

Activity Description:
This activity includes materials and construction of the project.

Activity Milestones:

Description	Completion Date
Construction of restoration features, seeding and native buffers	June 30, 2025
Construction materials, native seed and erosion control	June 30, 2025

Activity 3: Biological Monitoring

Activity Budget: $75,000

Activity Description:
Three years of monitoring to ensure that restoration efforts improve upon current conditions, specifically targeting known impairments. Includes 1) pre-sampling to identify stream reaches and sampling sites, 2) electrofishing two reaches of the river, 3) sampling two locations for macroinvertebrates, 3) summarizing data with IBI values and providing raw data to public and interested agencies such as DNR, MPCA, and SWCD. Sampling follows MPCA methodologies.

All monitoring data will be reviewed/statistically analyzed and summarized in a report to compare restored and non-restored habitat sections, evaluate sizes pre/post restoration, and to examine the role of seasonality on the communities evaluated. This data and summary will help to target future restorations and success of restorations. The data collected each year will also be used by Eagle Bluff to develop educational programs such as adult or child learning opportunities to assist with data collection and to learn about restoration.

Activity Milestones:

Description	Completion Date
Stream sampling: Fish, macroinvertebrates, water levels and temperatures	September 30, 2026
Stream sampling: Fish, macroinvertebrates, water levels and temperatures	September 30, 2027

Stream sampling: Fish, macroinvertebrates, water levels and temperatures, summary report and raw data distribution.	June 30, 2028

Project Partners and Collaborators

Name	Organization	Role	Receiving Funds
Brightsdale Dam Channel Restoration	Fillmore SWCD	Educational partner: their project is in close proximity to Eagle Bluff which will allow us to use their site as another educational location when teaching about water quality, restoration practices, and aquatic species.	No

Long-Term Implementation and Funding

Describe how the results will be implemented and how any ongoing effort will be funded. If not already addressed as part of the project, how will findings, results, and products developed be implemented after project completion? If additional work is needed, how will this work be funded?

Our project design includes habitat and stream bank restoration techniques designed for long-term hydraulic stability and ecological improvements. Once the project is completed and vegetation established, minimal maintenance will be required to sustain the designed habitat outcomes. Maintenance inspections in conjunction with three years of biological monitoring, in cooperation with local MNDNR staff, will be a part of our educational program. The timeline for the overall project construction is approximately 2 years, with 3 years of biological monitoring of the site after construction is completed. Additional future project phases of other sections of stream reach would require separate funding requests.

Project Manager and Organization Qualifications

Project Manager Name: Colleen Foehrenbacher

Job Title: Executive Director

Provide description of the project manager's qualifications to manage the proposed project.

Colleen Foehrenbacher has served as Executive Director for Eagle Bluff Environmental Learning Center since April of 2020. Before this, she served as Eagle Bluff's Deputy and Education Director for 3 years. While at Eagle Bluff Colleen has managed over $2,000,000 in grant projects including $40,000 ENRTF funds from 2017-2019 as a sub-grantee for the environmental education project titled, "Expanding Raptor Center Online Education."

Organization: Eagle Bluff Environmental Learning Center

Organization Description:

Eagle Bluff is one of six residential environmental learning centers (RELCs) in Minnesota, and the only RELC in southeastern Minnesota. We are an accredited special purpose school that functions as both a day-use nature center as well as a residential center. Unlike a traditional summer camp, we offer programs year-round and our classes are taught by highly trained and certified full-time staff, with curriculum based on Minnesota State Academic Standard and National Science Standards.

Eagle Bluff began as a grassroots project in 1978, serving 800 individuals annually through full- and half day classes based on forest management curriculum. 40 years later, Eagle Bluff now serves over 18,000 participants annually. Our center consists of a visitor center, 248-bed dormitory, dining hall, and classroom building.

Our mission is dedicated to empowering people to care for the earth and each other. We are committed to offering experiential environmental education to students of all ages, and believe that together we can make a lasting difference by connecting individuals to nature through education. Through experiential classes in an outdoor setting, all Eagle Bluff students receive an interdisciplinary, well-balanced perspective founded on the principles of responsible action and stewardship.

Budget Summary

Category / Name	Subcategory or Type	Description	Purpose	Gen. Ineligible	% Benefits	# FTE	Classified Staff?	$ Amount
Personnel								
							Sub Total	**-**
Contracts and Services								
TBD Engineering Firm	Professional or Technical Service Contract	Creation of Engineering/Construction Plans and Bid Specifications				-		$140,000
TBD Construction Contractor	Professional or Technical Service Contract	Construction of restoration features, seeding, and native buffers				-		$300,000
TBD	Professional or Technical Service Contract	Biological monitoring				0.75		$75,000
							Sub Total	**$515,000**
Equipment, Tools, and Supplies								
	Tools and Supplies	Construction Materials	Construction materials for restoration features, seeding, and native buffers					$350,500
	Equipment	Water Level Meters	Water level elevations and temperature					$500
							Sub Total	**$351,000**
Capital Expenditures								
							Sub Total	**-**
Acquisitions and Stewardship								
							Sub Total	**-**

Travel In Minnesota								
							Sub Total	**-**
Travel Outside Minnesota								
							Sub Total	**-**
Printing and Publication								
							Sub Total	**-**
Other Expenses								
							Sub Total	**-**
							Grand Total	**$866,000**

Classified Staff or Generally Ineligible Expenses

Category/Name	Subcategory or Type	Description	Justification Ineligible Expense or Classified Staff Request

Non ENRTF Funds

Category	Specific Source	Use	Status	Amount
State				
			State Sub Total	**-**
Non-State				
In-Kind	Eagle Bluff Environmental Learning Center	Grant Administration	Secured	$15,000
In-Kind	Eagle Bluff Environmental Learning Center	5 years of maintenance and monitoring work	Secured	$50,000
In-Kind	Eagle Bluff Environmental Learning Center	1 year of curriculum development work to add in monitoring and create curriculum around this project and ongoing education programs.	Secured	$30,000
In-Kind	Eagle Bluff Environmental Learning Center	Environmental Technician Biological Monitoring	Secured	$9,000
			Non State Sub Total	**$104,000**
			Funds Total	**$104,000**

Acquisition and Restoration

Parcel List

Name	County	Site Significance	Activity	Acres	Miles	Estimated Cost	Type of Landowner	Easement or Title Holder	Status of Work
"The Point" Property	Fillmore	Contains restored prairies, forests, oak savannas. The area has been classified as an area of "outstanding biodiversity."	Restoration	131	-	-	Private	MN Land Trust	Has Not Begun
Totals				**131**	**0**	**-**			

Restoration

1. Provide a statement confirming that all restoration activities completed with these funds will occur on land permanently protected by a conservation easement or public ownership.
Yes. All restoration activities completed with these funds will occur on land permanently protected by a conservation easement..

2. Summarize the components and expected outcomes of restoration and management plans for the parcels to be restored by your organization, how these plans are kept on file by your organization, and overall strategies for long-term plan implementation.
The habitat improvements are designed for long-term stability and no significance maintenance will be required to sustain project outcomes. A long-term monitoring and maintenance plan will be implemented by Eagle Bluff to assure all constructed habitat restoration measures are functioning as designed for the project. Maintenance includes inspecting the integrity of the habitat features, riverbank stabilization and vegetation management, in conjunction with routine inspections and biological monitoring conducted by MNDNR staff, volunteers, hired professionals, and Eagle Bluff students and staff.

3. Describe how restoration efforts will utilize and follow the Board of Soil and Water Resources "Native Vegetation Establishment and Enhancement Guidelines" in order to ensure ecological integrity and pollinator enhancement.
This project will use native seed and plant material sourced from the local region to ensure that the plants are viable and adapt to the conditions of the site. Seed selection will include a high diversity of species that provides functions of pollinator habitat, foraging habitat for wildlife and fish species, floodplain management, and soil stability.

4. Describe how the long-term maintenance and management needs of the parcel being restored with these funds will be met and financed into the future.
Eagle Bluff Environmental Learning Center will be responsible for the long-term maintenance and management needs of the parcel. We already have personnel and funding to do so.

5. Describe how consideration will be given to contracting with Conservation Corps of Minnesota for any restoration activities.
Eagle Bluff will consider contracting with the Conservation Corps Minnesota to aid in live plantings in addition to invasive species removal.

6. Provide a statement indicating that evaluations will be completed on parcels where activities were implemented both 1) initially after activity completion and 2) three years later as a follow-up. Evaluations should analyze improvements to the parcel and whether goals have been met, identify any problems with the implementation, and identify any findings that can be used to improve implementation of future restoration efforts at the site or elsewhere.
Eagle Bluff Environmental Learning Center will complete evaluations after construction is completed, monitoring will be completed throughout the growing season annually as part of our ongoing educational program, and biological monitoring will occur for three years post-construction. A summary of our monitoring data will be completed after the initial habitat installation and then after three years post-construction. Monitoring data will be provided to the MPCA and other interested parties.

Attachments

Required Attachments

Map

File: 8f078e2c-ff1.pdf

Alternate Text for Map

Map 1: Shows the two restoration sites on the North Branch of the Root River.
Map 2: Habitat Restoration Concept plan for site 1 which includes toe-wood benches, boulder toe protections, and lowering of point bar.
Map 3: Habitat Restoration Concept plan for site 2 which includes riffle enhancement, boulder toe protection, and toe-wood benches....

Financial Capacity

File: f1d62cf5-0df.pdf

Board Resolution or Letter

Title	File
Board of Directors Support Letter	e6a14fca-2f6.pdf

Optional Attachments

Support Letter or Other

Title	File
Fillmore County Letter of Support	439fad92-3bb.pdf
Fillmore County SWCD Letter of Support	903d3a24-59e.pdf
Greg Davids Letter of Support	1ef535d4-3a6.pdf
MN Land Trust Letter of Support	59c3c5e7-3fd.pdf
Friends of the Root River Letter of Support	4967b5c0-bfb.pdf
Pheasants Forever Letter of Support	77003db9-9ea.pdf
Molitor (EB Neighbors) Letter of Support	6a0e4e8f-f73.pdf
Eagle Bluff Site 1 photo	4ab83587-eb3.pdf
Eagle Bluff Site 2 photo	6a9761b7-77e.pdf

Administrative Use

Does your project include restoration or acquisition of land rights?

Yes: Restoration,

Does your project have potential for royalties, copyrights, patents, or sale of products and assets?

No

Do you understand and acknowledge IP and revenue-return and sharing requirements in 116P.10?

N/A

Do you wish to request reinvestment of any revenues into your project instead of returning revenue to the ENRTF?

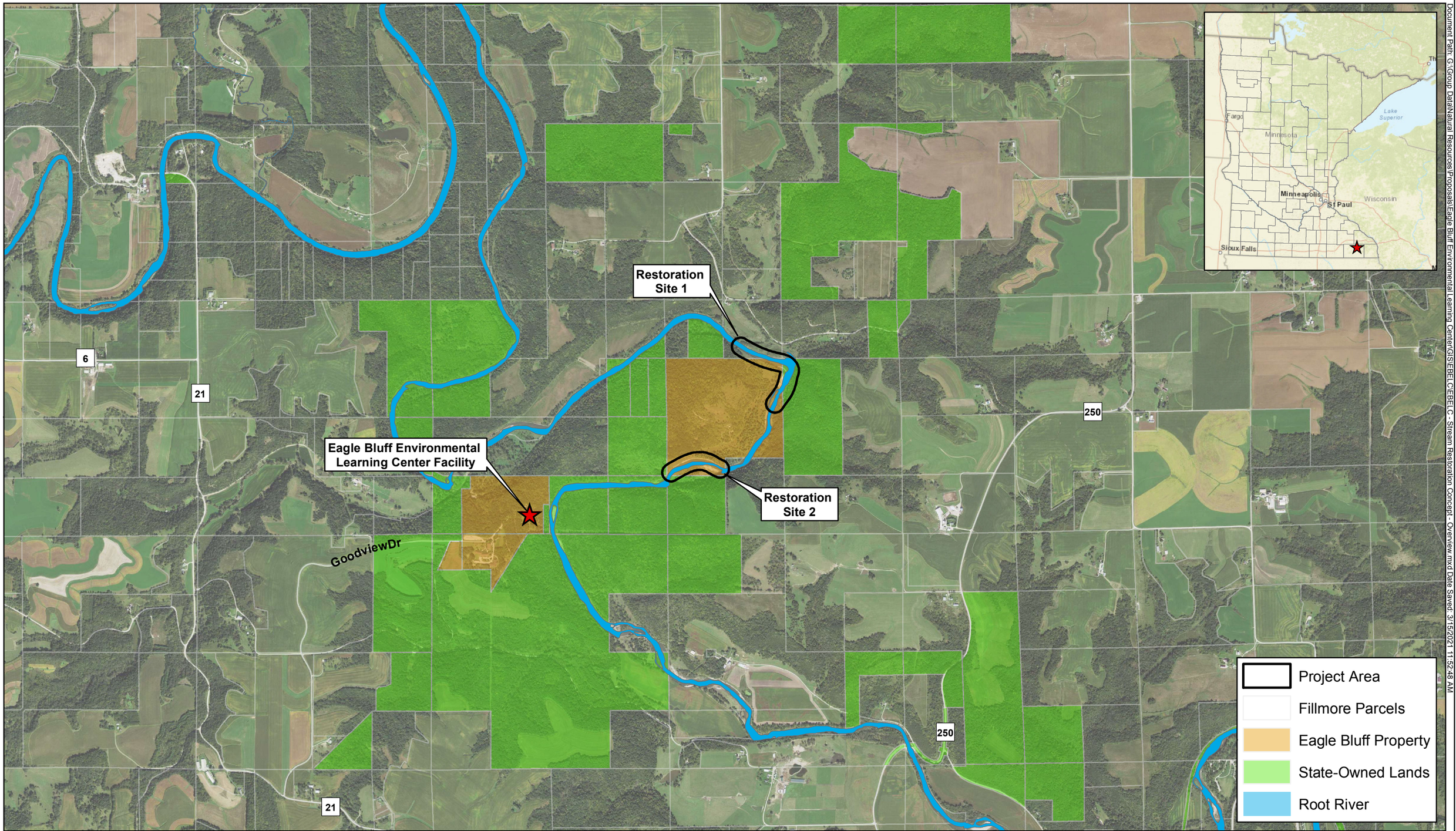
N/A

Does your project include original, hypothesis-driven research?

No

Does the organization have a fiscal agent for this project?

No



Document Path: G:\Group Data\Natural Resources\Proposals\Eagle Bluff Environmental Learning Center\GIS\EBELC\EBELC - Stream Restoration Concept - Overview.mxd Date Saved: 3/15/2021 11:52:48 AM

Eagle Bluff Environmental Learning Center

Root River - Habitat Restoration Concept Plan

Eagle Bluff Environmental Learning Center
Fillmore County, MN

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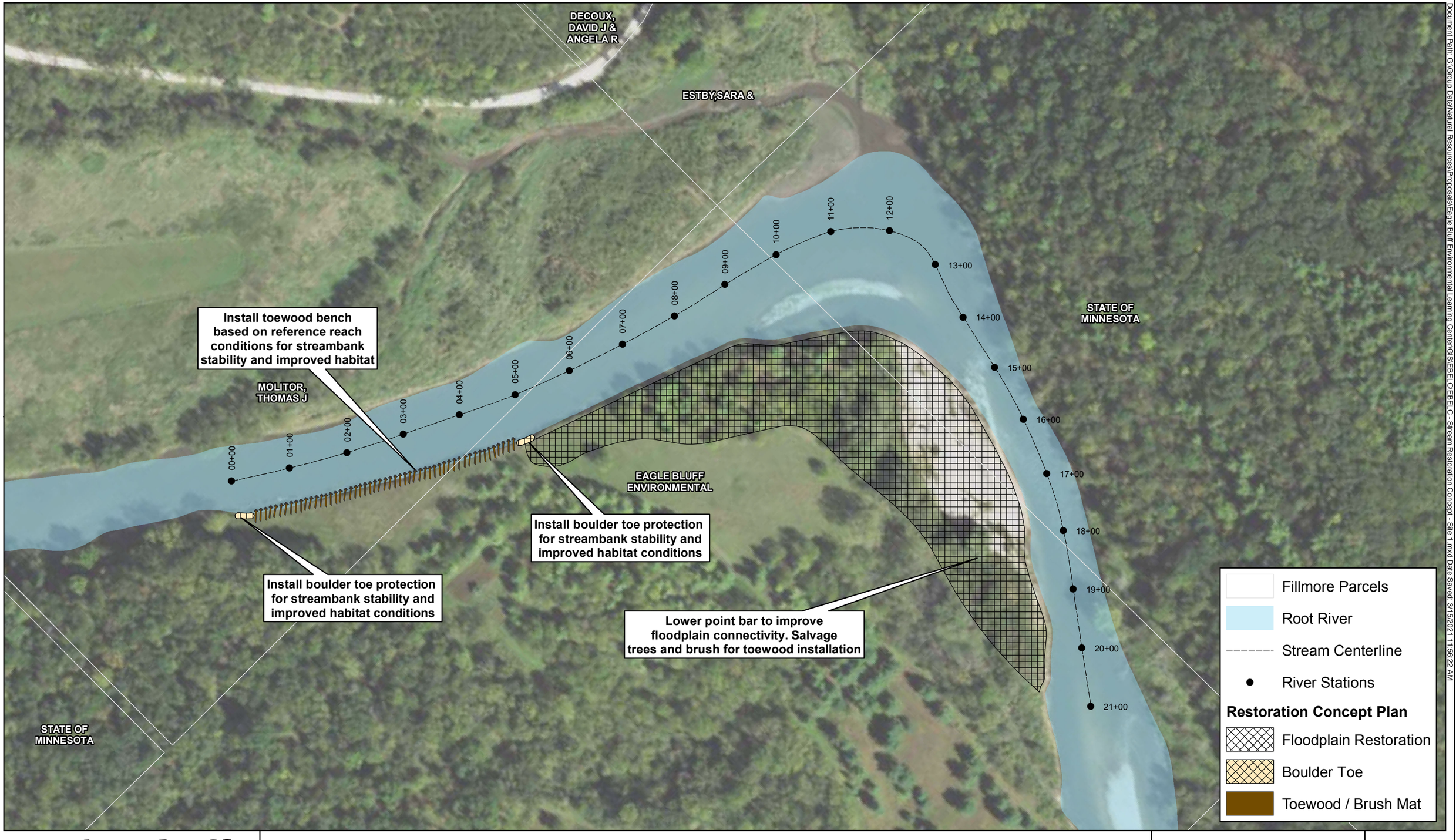
Overview



Eagle Bluff Environmental Learning Center

Root River - Habitat Restoration Concept Plan

Eagle Bluff Environmental Learning Center
Fillmore County, MN

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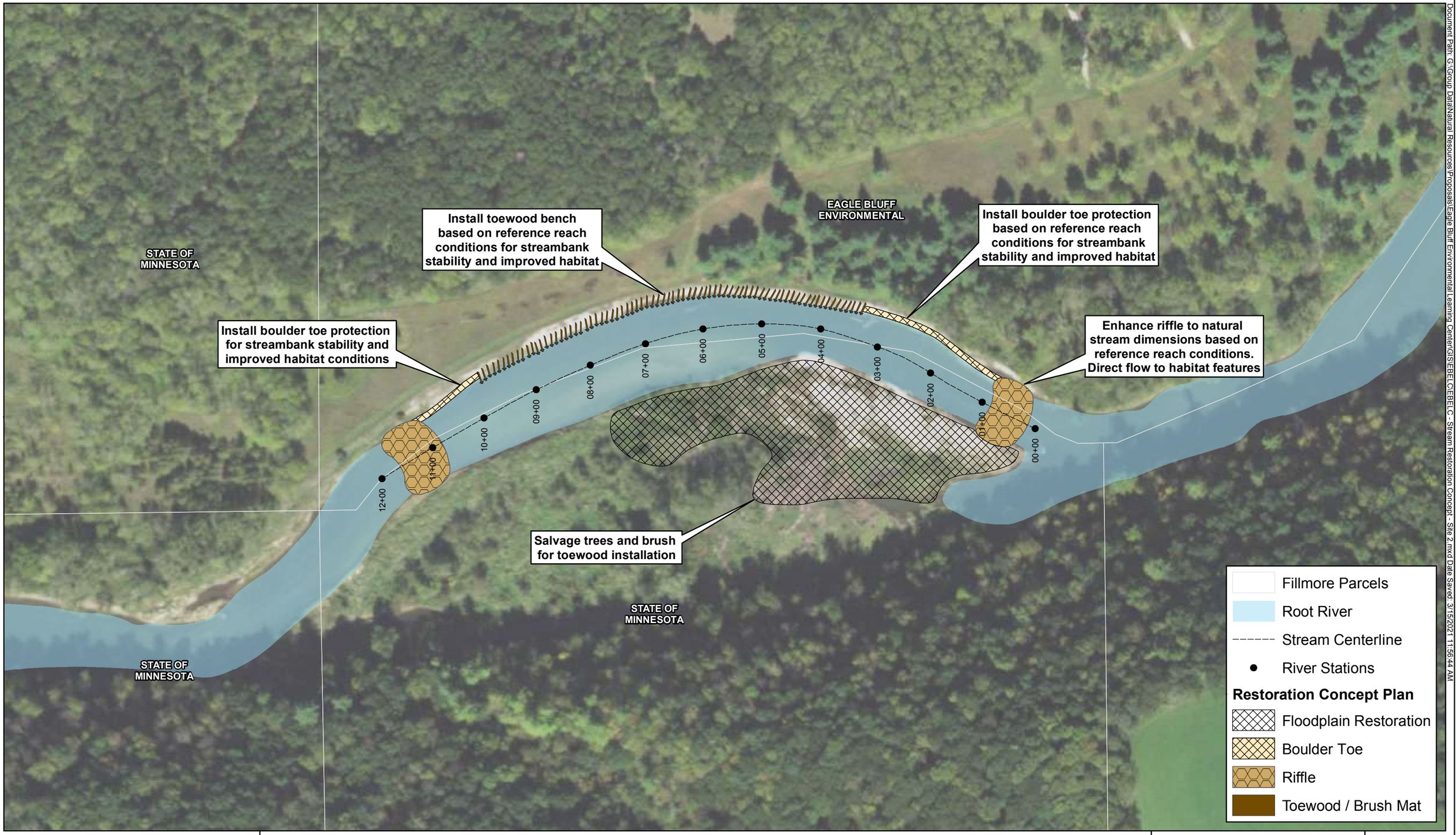
Site 1



Eagle Bluff Environmental Learning Center

Root River - Habitat Restoration Concept Plan

Eagle Bluff Environmental Learning Center
Fillmore County, MN

N

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Site 2